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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/471,281 | 12/23/1999 | RODOLPHE NASTA | Q57406 | 7223 |

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| EXAMINER |
|---|
| MILLER, BRANDON J |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2683 | |

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



H

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/471,281 | NASTA, RODOLPHE | |
| | Examiner | Art Unit | |
| | Brandon J Miller | 2683 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 July 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Response to Amendment*

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dybdal in view of Durrant and Worger.

Regarding claim 1 Dybdal teaches a satellite having at least two antennas and transmitting signals to a satellite (see col. 5, lines 43-49). Dybdal also teaches receiving signals from various antennas (see col. 5, lines 43-49). Dybdal does not teach antennas whose radiation patterns overlap, transmitting or receiving spread spectrum modulated signals, summing signals, demodulating signals or delaying signals by a difference of at least one chip. Worger teaches antenna beams in a satellite that overlap (see col.1, lines 25-29 and col. 4, lines 35-38). Durrant teaches transmitting and receiving spread spectrum signals (see col. 3, lines 1-2, col.5, lines 33-34, and col. 52, lines 31-32) and summing spread spectrum signals (see col. 7, lines 27-30). Durrant also teaches demodulating signals (see col. 2, lines 56-58) and delaying signals by a difference of at least one chip (see col. 8, lines 36-37). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal adapt to include antennas whose radiation patterns overlap, transmitting and receiving spread spectrum modulated signals, summing signals, demodulating signals and delaying signals by a difference of at least one chip

because this would allow for the use of a single receiver that receives the sum of signals from antennas without the necessity of selecting a receive signal.

Regarding claim 2 Dybdal teaches a satellite having at least two antennas and transmitting signals to a satellite (see col. 5, lines 43-49). Dybdal also teaches receiving signals from various antennas (see col. 5, lines 43-49). Dybdal does not teach antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, sending or transmitting modulated signals, or a signal offset by at least one chip. Worger teaches antenna beams in a satellite that overlap (see col.1, lines 25-29 and col. 4, lines 35-38). Durrant teaches spread spectrum modulating a signal to be transmitted (col. 1, lines 19-21) and signals offset by a least one chip (see col. 20, lines 65-66). Durrant also teaches sending and transmitting modulated signals (see col. 3, lines 1-2). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal adapt to include antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, sending and transmitting modulated signals, and a signal offset by at least one chip because this would allow for a receiver to lock onto a signal from one antenna without a signal from another antenna interfering

Regarding claim 3 Durrant further teaches modulating signals using a spreading sequence offset by one chip (see col. 20, lines 65-66).

Regarding claim 4 Durrant further teaches applying a time-delay to a signal (see col. 8, lines 36-37).

Regarding claim 5 Dybdal teaches a satellite having at least two antennas and transmitting signals to a satellite (see col. 5, lines 43-49). Dybdal also teaches receiving signals from various antennas (see col. 5, lines 43-49). Dybdal does not teach antennas whose radiation

patterns overlap, spread spectrum modulating a signal to be transmitted, sending or transmitting modulated signals, or signals being modulated using different sequences. Worger teaches antenna beams in a satellite that overlap (see col.1, lines 25-29 and col. 4, lines 35-38). Durrant teaches spread spectrum modulating a signal to be transmitted (col. 1, lines 19-21). Durrant also teaches signals modulated using different sequences (see col. 6, lines 60-62) and sending and transmitting modulated signals (see col. 3, lines 1-2). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal adapt to include antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, sending and transmitting modulated signals, and signals being modulated using different sequences because this would reduce reception problems in the area of radiation pattern overlap of the antennas.

Regarding claim 11 Dybdal teaches a satellite having at least two antennas and transmitting signals to a satellite (see col. 5, lines 43-49). Dybdal also teaches receiving signals from various antennas (see col. 5, lines 43-49). Dybdal does not teach antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, or signals being modulated using different sequences. Worger teaches antenna beams in a satellite that overlap (see col.1, lines 25-29 and col. 4, lines 35-38). Durrant teaches spread spectrum modulating a signal to be transmitted (col. 1, lines 19-21). Durrant also teaches signals modulated using different sequences (see col. 6, lines 60-62). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal adapt to include antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, or signals

being modulated using different sequences because this would allow for a more complete antenna coverage of satellites.

Claims 6, 8-10, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dybdal in view of Durrant, Worger, and Saulnier.

Regarding claim 6 Dybdal teaches a satellite having at least two antennas and transmitting signals to a satellite (see col. 5, lines 43-49). Dybdal also teaches receiving signals from various antennas (see col. 5, lines 43-49). Dybdal does not teach antennas whose radiation patterns overlap, receiving the sum of a signal, demodulating a spread spectrum signal, or signals with a difference between transmission times greater than one chip. Worger teaches antenna beams in a satellite that overlap (see col.1, lines 25-29 and col. 4, lines 35-38). Durrant teaches receiving the sum of a signal (see col. 7, lines 31-33 and Fig. 5) and demodulating a spread spectrum signal (see col. 5, lines 39-41). Saulnier teaches signal transmission times with a difference greater than one chip (see col. 3, lines 57-60). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal adapt to include antennas whose radiation patterns overlap, receiving the sum of a signal, demodulating a spread spectrum signal, and signals with a difference between transmission times greater than one chip because this would limit multipath problems in reception and transmission.

Regarding claim 8 Durrant further teaches a time delay unit between receiver means (col. 9, lines 11-12 and FIG.7).

Regarding claim 9 Durrant further teaches a delay line (col. 9, line 53).

Regarding claim 10 Dybdal teaches a satellite having at least two antennas and transmitting signals to a satellite (see col. 5, lines 43-49). Dybdal also teaches receiving signals

from various antennas (see col. 5, lines 43-49). Dybdal does not teach antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, or signals with a difference between transmission times greater than one chip. Worger teaches antenna beams in a satellite that overlap (see col.1, lines 25-29 and col. 4, lines 35-38). Durrant teaches spread spectrum modulating a signal to be transmitted (col. 1, lines 19-21). Saulnier teaches signal transmission times with a difference greater than one chip (see col. 3, lines 57-60). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal adapt to include antennas whose radiation patterns overlap, spread spectrum modulating a signal to be transmitted, or signals with a difference between transmission times greater than one chip because this would allow for the antennas to be connected so the difference between transmission times of a signal form two antennas is greater than one chip of spread spectrum modulation.

Regarding claim 13 Durrant further teaches a time delay unit between transmitter means (col. 9, lines 11-12 and FIG. 7).

Regarding claim 14 Durrant further teaches a delay line (col. 9, line 53).

Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dybdal in view of Durrant, Worger, Saulnier, and Dodd.

Regarding claim 7 Dybdal, Durrant, Worger, and Saulnier teach a device as recited in claim 6 except for a coupler for signals from an antenna, and receiver means with two receivers. Dodd teaches a coupler for signals from an antenna and receiver means with two receivers (see col. 1, lines 13-15 and FIG. 2). It would have been obvious to one skilled in the art at the time the invention was made to make the Dybdal, Durrant, Worger, and Saulnier adapt to include a

coupler for signals from an antenna, and receiver means with two receivers because this would allow signals to be received correctly in the area of overlap in antenna radiation patterns.

Regarding claim 12 Dodd further teaches transmitter means with two transmitters (see col. 3, line 54 and FIG. 2) and Durrant further teaches transmitters in a redundancy configuration (see col. 41, lines 54-57).

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Park U.S Patent No. 6,353,643 discloses a smart antenna receiver using pilot signal in CDMA mobile communication system and signal receiving method therefor.

Dent U.S Patent No. 6,157,811 discloses a cellular/satellite communications system with improved frequency re-use.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-2222. The examiner can normally be reached on Mon.-Fri. 8:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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September 19, 2002

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600